# Unit 4 – Managing Systems

This is the fourth and final unit of the *Management Strategies for Public Health I* module. In the preceding units, we looked at managing people and plans. In this Unit, we bring together people, plans and resources. The focus is on well- managed systems as essential tools for managers in using resources effectively and efficiently to achieve objectives and goals.

It is the manager’s responsibility to ensure that the resources at your disposal are used in ways that ensure maximum benefit to the people you are serving. Yet this aspect of management is frequently neglected in public services, and resources may be used inappropriately. Careless management of scarce health resources means that some people will lose out – often those most in need of assistance. Perhaps here it is useful to bring to mind the catch phrase of the South African 1997 *White Paper on Transforming Public Service Delivery* in South Africa:

***Batho Pele - People First***

Each health manager must take responsibility for the fact that the way in which they manage resources has direct bearing on the health of the population they are committed to serving.

There are two Study Sessions in this Unit.

Study Session 1: Standardisation and Quality Assurance Study Session 2: Developing and Interpreting Budgets

In Session 1, we will apply the concepts and frameworks of standardisation, and quality assurance to managing medical supplies and equipment.

In Session 2, we define basic financial terminology, develop and interpret a budget and explore mechanisms for controlling a budget.

We have been necessarily selective in choosing the resources to discuss: we hope that you will derive some principles of managing resources from these sessions, and that you will be able to apply them in relation to other resources if called upon to do so.

## Learning Outcomes of Unit 4

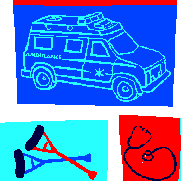
|  |
| --- |
| **By the end of Unit 4, you should be able to:** |
| * Discuss the value of standardisation and quality assurance in relation to medical equipment and supplies. * Evaluate an equipment management system and plan remedial action. * Develop and interpret a budget. * Evaluate components of a variety of systems within the District Health System. |

**Unit 4 - Session 1**

**Standardisation and Quality Assurance**

**Introduction**

Although medical supplies and equipment may use up to 40% of the medicines budget, the management of supplies and equipment is often neglected. Wastage is common and unused or broken equipment is a frequent sight in many medical stores and health facilities.



However, the availability of appropriate supplies and equipment is essential to the provision of health care. In this session we look at some of the challenges associated with managing medical supplies and equipment, and at options for improvement.

## Session Contents

1. Learning outcomes of this session
2. Readings
3. The value of standardisation
4. Quality assurance
5. Session summary
6. References

## Timing of this Session

There is one reading and three tasks in this session. It is likely to take you up to three hours, as two of the tasks should be undertaken in your workplace.

## LEARNING OUTCOMES OF THIS SESSION

|  |  |
| --- | --- |
| **By the end of this session, you should be able to:** | |
| **Management outcomes:**   * Apply the concept of standardisation to medical supplies and equipment. * Apply a quality assurance framework in your own workplace. * Evaluate an equipment management system and plan remedial action. | **Academic outcomes:**   * Clarify and apply concepts. * Evaluate a system using a framework. |

1. **READINGS**

The reading for this session is listed below.

|  |
| --- |
| **Publication details** |
| MSH. (Management Sciences for Health). (1997). Ch 12 - “Essential Medical Supplies and Equipment” *Managing Drug Supply.* West Hartford, Connecticut: Kumarian Press: 150-155. |

## THE VALUE OF STANDARDISATION

Although you may not be directly involved in managing supplies and equipment, some insights into the issues relevant to this important aspect of health service provision will assist you as a manager in supervising your staff and making decisions about resource use.

Health managers are often required to approve budgets and purchases of supplies and equipment.



Understanding the meaning and benefits of the concept of standardisation can assist you in making these decisions, and in guiding your team in effective resource management.

To orientate yourself to the topic, study this reading and then complete Task 1. Note that the difference between supplies and equipment is explained on page 151 of the reading.

**READING**

MSH. (Management Sciences for Health). (1997). Ch 12 - “Essential Medical Supplies and Equipment”. *Managing Drug Supply.* West Hartford, Connecticut: Kumarian Press: 150-155.

**TASK 1 - Understanding standardisation**

a)

b)

c)

d)

What is meant by standardisation of medical supplies and equipment? What is meant by minimum specifications?

What are some advantages of standardisation?

What are some of the challenges associated with standardisation?

### FEEDBACK

1. Standardisation in this context means that a country, a region, a district or even an individual health facility will decide upon a list of carefully selected items that will be used consistently as the standard when procuring supplies and equipment.

### Standardisation includes two components:

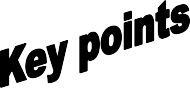
The variety of items needed at each level of facility, e.g. a list of the different pieces of equipment required for a district hospital or a health post. If the size of the facility or population is specified, the standard list may also include recommended amounts of each piece of equipment.

The details of what each item should be able to do as well as factors which affect its quality, e.g. the type of metal from which a medical instrument should be made, its size, etc. These are called the product specifications.

*Like drugs, equipment and medical supplies should be selected on the basis of need … A national committee for supplies and equipment should then combine the lists for each level of care into one list of essential medical supplies and equipment. Like the list of essential drugs, this list should be the basis for standardized procurement and distribution of supplies and equipment, as well as for training …* (MSH, 1997: 152).

1. Minimum specifications are related to product specifications and describe the minimum functional and quality requirements of an item e.g. Figure 12.1 on page 153 of this reading.
2. The variety of medical supplies and equipment potentially available is vast. A standard list helps to identify the most needed or “essential” items, thus assisting in making important choices in the face of scarce resources.

Having a limited variety of equipment types has the following advantages:



**The advantages of a limited variety of equipment**

* It simplifies inventory management.
* It allows a province or a country to buy in bulk, which may reduce costs.
* It makes maintenance and repair easier because technicians do not have to be familiar with a vast number of different items; spare parts can be bought in bulk, thus improving availability and keeping costs down.
* It makes the training of staff in operation and maintenance easier, because again they do not have to be trained to manage a large number of different items.

1. While the advantages of standardisation are clear, in practice it may be difficult to achieve. Clinicians may try to insist on particular brands of equipment that they prefer. Regulations in the tender process may require that certain brands are purchased because of better prices, even though they are not on the standard list. In addition, donations present a particular problem. Here are a few possible reasons for problem donations:

* *… Donors of medical equipment may have no background in health issues, nor an understanding of the structure of health services of the recipient (usually based in a developing country), and do not recognise the need to seek expert advice.*
* *New but inappropriate equipment is donated as a means of promoting and marketing it.*
* *Companies, hospitals or private doctors donate outmoded, outdated equipment as it provides them with tax exemptions or as a means of getting rid of redundant equipment.*
* *Potential donors with patronizing attitudes towards recipients regard them as beggars desperate for any equipment and therefore do not consider it worthwhile to consult them. The recipient may compound this problem by feeling obliged to accept any donation, even though the equipment is unnecessary, or where charges such as import taxes and transport costs are prohibitive …* (WCC & CISS, 1993: 1).

Rather than giving donations in kind, it is generally better when a donor provides the funding with which to purchase the equipment. The donor may not, however, agree to this. Even when such funding is provided, problems can arise as the donor may insist on specifying from where the items should be purchased.

These are challenging issues and often involve policy decisions at high levels. Frequently the manager has little control over such issues. However, if as a manager you do have some control over the type of equipment purchased and received, it is definitely worth trying to standardise as much as possible. Now try this task to assess whether standardisation is being achieved in your setting.

**Task 2 – Investigating standardisation in your setting**

1. Find out if there are standard supplies and equipment lists available in your workplace. These may originate from national or provincial level, or even have been established in your district or facility.
2. If standard lists do exist, obtain the most recent inventory list from each health facility and compare the inventory list to the standard list to see to what extent the standards are being followed.
3. Are the standard lists used to guide procurement and donations?
4. Do the lists include minimum product specifications?

### FEEDBACK

If no standard lists exist, the manager should consider initiating the process of establishing such lists. This process should be carried out by a team which includes managers, health workers from various levels and various disciplines, and very importantly, equipment technicians.

**IMPORTANT ISSUES TO CONSIDER WITH REGARD TO STANDARDISATION INCLUDE:**

|  |  |
| --- | --- |
| **Staff experience, and training required for installation, operation and maintenance** | Consider both the clinical staff and the technical services staff required to operate the equipment. |
| **Location for the equipment** | Consider site accessibility and the space available. |
| **Climatic and environmental conditions** | For example temperature, humidity, dust, ventilation … |
| **Utilities** | Power supply (gas, generator, fossil fuel, wood fuel,  solar, windmill, biogas, etc), reliability of supply (fluctuating power, interruptions, rationing, etc), type of power (voltage, frequency, phase, AC/DC), type of water (polluted, salty, hard, soft, etc) and the means of delivery (piped, stored, well, river, rain, etc). |
| **Support services required for operation, procedures and clinical use of equipment** | Keep in mind that modern equipment may offer a wide variety of operational modes and may simplify the performance of certain procedures but it is often very expensive, and may need both health specialists and a manufacturer’s service network for maintenance and repair. When these are available, spare parts and special maintenance tools that are costly may be required. Sophisticated equipment often has very sensitive parts. Also remember that sophisticated modes offered by the equipment are often not utilised. |
| **Maintenance costs** | Consider spare parts, downtime during normal servicing and level of expertise of technical staff required. |
| **Availability of consumables** | Some equipment may require consumables which are not available locally, for example, special papers, films, filters, etc. These are recurrent cost items and their availability must be assured. |

|  |  |
| --- | --- |
| **Other specific requirements related to the equipment** | For example, whether a new edition will conform with existing equipment … or especially solid walls for x-ray machines … or power stabilisers for electronic equipment etc. |
| **Experience of others with similar equipment, brands or sources** | Check whether equipment is manufactured locally or imported on a regular basis … |

Source: WCC & CISS, 1993: 1

The above points are useful not only for the establishment of standard lists, but can be used as a checklist when any new piece of equipment is to be purchased or received as a donation. We have so far examined the concept of standardisation. In the next section, we will look at the issue of quality assurance.

## QUALITY ASSURANCE

This section focuses on medical equipment rather than on supplies. The availability of functional medical equipment is vital to the provision of adequate health services. Quality assurance means that appropriate and fully functional equipment is available in the right place at the right time.

**Quality assurance can be strengthened through having systems in place for:**

* selection of appropriate equipment
* inventory control
* training of health workers in operation and maintenance of equipment
* preventive maintenance and repair.

### 1 Selection of Appropriate Equipment

This has already been discussed in the previous section on standardisation.

### Inventory Control

Inventory control or inventory management is one of the most important aspects of medicines supply management and ultimately affects all parts of the medicines management cycle. Unfortunately however, inventory control is often neglected, resulting in both wastage and shortage of medicines. A health manager should understand what inventory control means and why it is important:

*…The goals of medical stores management are to protect stored items from damage, theft or wastage and to manage the reliable movement of supplies from source to user in the least expensive way. Effective use of information is the key to achieving these goals … [This] integrated process is known as inventory control* (Management Sciences for Health, 1997: 342).

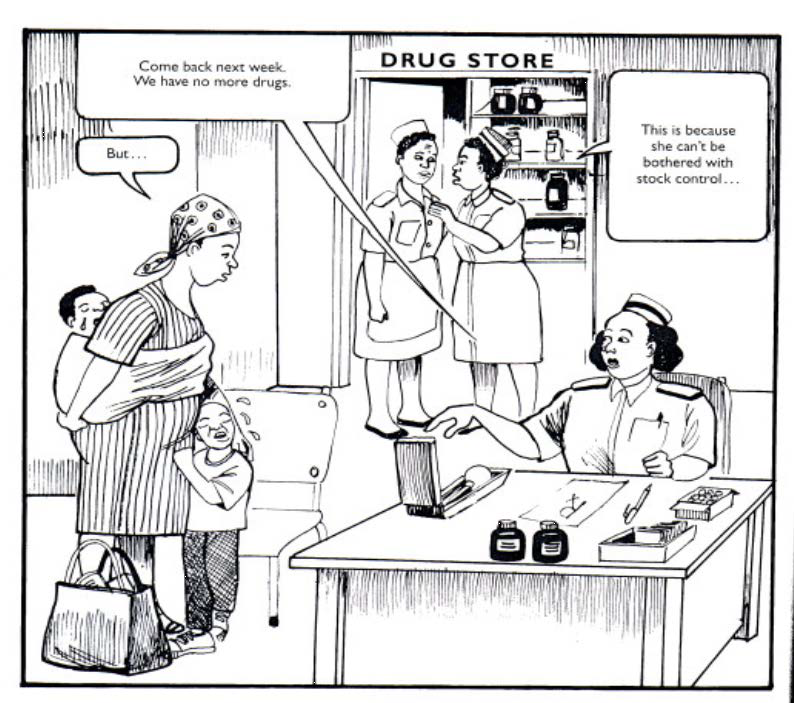
*… Inventory management is not something that can be done sometimes. It works only if records are maintained accurately and in a timely fashion. The long-term benefits of implementing such a system outweigh the efforts needed for its maintenance.*

*The main objective of inventory control is to be able to supply the right quality product to the patient at the right time and in the right quantity. This is the only way to ensure people’s confidence in the health system and to provide adequate quality of care …* (Province of the Eastern Cape, Department of Health, 2000: 4*).*

Proper medicines inventory control is a crucial system of health services provision and is therefore a crucial responsibility of a health manager. To emphasise this point, imagine this situation:

*You are living in a rural area. The only health facility nearby is a government clinic. Your child is seriously ill. She needs a particular medicine urgently.*

*The clinic in charge informs you that unfortunately the medicine is out of stock and suggests that you go to the private retail pharmacy in the town. The town is 50km away. The main road is 20km away. There is no regular transport to the main road. You will have to walk. There are no regular buses on the main road. You will have to hitch a ride. People hitching rides are often attacked on this road. Women have been raped. Sometimes there are taxis but they are very expensive. If you pay for the taxi you may not have enough money for the medicine. Even if you manage to buy the medicine, you will not be able to buy food for your other children for a week, so you will have to ask your relatives for help. Your relatives have their own difficulties and you feel so bad to ask them.*



170

**TASK 3 - Thinking about the results of poor inventory control**

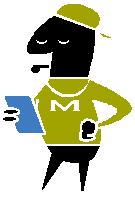
How would you feel if you knew that the medicine was out of stock because the clinic staff did not order it in time or because they did not keep proper records of how much they have in stock? What if the medicine was not really out of stock but the store was so untidy that the staff could not find the medicine even if they did have it?

### FEEDBACK

You would probably feel very angry and you should be very angry. Maybe something like this has not happened to you, but it has happened to many people. Usually these people are poor and uneducated and there is nothing they can do about the situation. As health providers, we face many challenges and there are many things we cannot change, but it is unacceptable that a child should die or a family, already struggling to survive, should be further financially crippled because of a management issue that could very easily be improved.

The issue of checking medicine quality is difficult, as often the only way of completely assessing quality is by means of complex and expensive laboratory tests. However, there are some clues which can alert health workers to the possibility of inferior quality. These are listed on the checklist on page 17 e.g. item 12. Remember that poor quality packaging should be viewed with suspicion. No damaged containers should be accepted. If in doubt about any drug quality issues, contact the appropriate medicines authority in your health system for advice.

The following principles can be used for equipment inventory control. The central issue is that all items are accounted for. So you as the manager should:



* *Know what is in stock right now.*
* *Know what goes where and when.*
* *Know what comes from where and when.*

The first step here is to ensure that an up-to-date inventory is available. Each facility should undertake a complete equipment inventory at least once a year. All non-functional equipment should also be listed.

Such inventories help to identify needs as well as highlight excess or unnecessary items which could perhaps be used elsewhere. Inventories also help to ensure accountability for items. If regular inventories are not done and appropriate records are not kept, it may be possible for equipment to “disappear” and it may then be very difficult to prove that it was there in the first place!

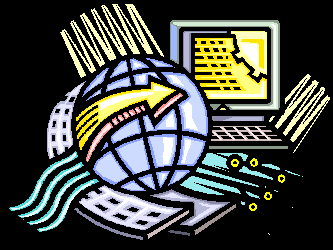
A common problem in assessing inventories is that different people describe the same piece of equipment in different ways or provide inadequate descriptions so that it can be difficult to interpret what has been written in the inventory. A way of improving this is to provide staff with standard lists which include item specifications to serve as a model to guide them when they describe equipment. It may also be helpful to hold a meeting to explain the value of inventories and the importance of clear and accurate documentation.

### Training of Staff

When new staff members are hired or a new piece of equipment arrives, it is essential that all concerned should understand how to operate and care for the equipment. If it is a complex piece of equipment, arrangements should be made with the supplier to install the item and train the staff. Sometimes this arrangement can be included in the purchasing contract. Make sure that the operating instructions are included with all new equipment. It is also good idea to keep a reference file of the operating instruction pamphlets for all equipment.

### Preventive Maintenance and Repair

Preventive maintenance means taking good care of equipment to prevent breakdowns and extend the useful life of the equipment. A lot of time, effort and money can be saved if a few simple procedures are followed in caring for the equipment. This can be achieved through having a regular preventive maintenance schedule.



Depending on the size of the health facility, each department or ward should have its own schedule.

A very important part of preventive maintenance is that specific staff members are assigned to such duties and that they are appropriately supervised.

It is essential to have a proper system for reporting non-functional equipment and for tracking the repair process. Items have been known to remain in warehouses for years and when questioned, the storekeeper will answer, “Well, I reported it two years ago!” One way of keeping track of repairs is to channel all repair requests through one person who is then in charge of following up on the process.

**TASK 3 – Evaluating your own equipment management system**

Even if this is not your direct responsibility, take the time to find out from the manager of equipment and medical supplies what the situation is in your workplace. Remember that as a manager, you are ultimately responsible for the way in which resources are used.

**Use the checklist below to find out if the following systems exist in your work place:**

* Annual equipment inventory.
* Training of staff in operation and care of equipment.
* Preventive maintenance schedule.
* System for reporting and follow-up on repairs.
* An adequate budget line for maintenance and repair of medical equipment.

|  |  |  |  |
| --- | --- | --- | --- |
| **Equipment Management System** | **Do we have it?** | **Person responsible** | **Action required**  **Date:** ….. |
| **Annual equipment inventory** |  |  |  |
| **Training of staff in operation and care of equipment** |  |  |  |
| **Preventive maintenance schedule** |  |  |  |
| **System for reporting and follow-up on repairs** |  |  |  |
| **An adequate budget line for maintenance and repair of medical equipment** |  |  |  |

### FEEDBACK

The availability of well-functioning equipment improves the quality of health service provision and contributes to job satisfaction among staff. Effective systems for quality assurance are needed to achieve this. Such systems are not difficult to implement, but the need to maintain them may have to be consistently reinforced. As a manager, you are in a position to motivate and support your staff on issues of quality assurance.

## SESSION SUMMARY

In this session we looked at some of the challenges surrounding the management of medical supplies and equipment. The benefits of standardisation and the factors influencing selection were examined. We also noted the importance of training staff in operation and care of equipment and of

having a proper maintenance and repair system in place. As a manager you will not be expected to be an expert on all the technical details concerning medical supplies and equipment. However, some insights into the issues associated with medical equipment and supplies will assist you in making important decisions to ensure the best use of resources. In the next session, we look at the management of drug resources.

## REFERENCES

* Gilson, L., Morar, R., Pillay, Y., Rispel, L., Shaw, V., Tollman, S. & Woodward, C. (1996). *Decentralization and Health Systems Change in South Africa*. Johannesburg: WHO/Health Policy Co-ordinating Unit. (Preface).
* Nicholson, J. (2001). *Bringing Health Closer to People. Local Government and District Health System.* Durban: The Health Systems Trust.
* Owen, C.P. (Ed). (1995). *A policy for the development of a district health system for South Africa.* Durban: Health Systems Trust.
* Tarimo, E. & Fowkes, F. (1989). ”Strengthening the backbone of PHC.” *World Health Forum,* 10.
* Vaughan, J. P. & Morrow, R.H. (1989). *Manual of Epidemiology for District Management.* Geneva: WHO.
* World Council of Churches (WCC) & Community Initiatives Support Services (CISS). (1993). *Guidelines on Medical Equipment Donation.* Geneva/Nairobi: WCC & CISS.
* Department of Health, Eastern Cape Province of South Africa. (2000). Managing Drug Supply for Health Institutions. Eastern Cape Province: Department of Health.
* HAI (Health Action International). (1998). *Developing Essential Drugs Policies: a Guide for NGOs”.* Amsterdam: HAI.
* Mamdani, M. (1992). Early Initiatives in Essential Drugs Policy. In Kanji, Hardon, Harnmeijer, Mamdani, M. & Walt, *Drugs Policy in Developing Countries*. London: Zed Books.
* Management Sciences for Health. (1997). *Managing Drug Supply.* West Hartford, Connecticut: Kumarian Press.
* National Essential Drugs List Committee. (1998). *Standard Treatment Guidelines and Essential Drugs List for South Africa.* South Africa: The National Department of Health.
* Sjolander, M. (2002). *Master’s thesis*, Umea University, Sweden.
* WHO. (1985). *Conference of Experts on the Rational use of Drugs.* Nairobi.

# Unit 4 – Session 2

**Developing and Interpreting Budgets**

## Introduction

Public sector health services are usually *… non-profit and define their goals and objectives in terms of services they provide to the community … Once the goal and objectives have been set, the tools and techniques of financial management are used to ensure that adequate funds are available to achieve these planned objectives in the most cost-effective way …* (Management Sciences for Health, 2001: 2).

*… Resource-allocation implies the distribution of resources, and in particular finance, from the center to the peripheral levels. It is generally used to refer to broad levels of aggregated financial resources. Budgeting implies the more detailed determination of precisely how these funds are to be used* … (Green, 1994: 243).

*… budgeting is an integral part of effective planning, being the means to achieve resources and hence action. Planners who fail to get involved in the budgeting process are handicapped from the beginning …* (Green, 1994: 264).

Financial management is the bedrock of resource management in a project or programme. A good financial system is central to good management. The manager ultimately carries the responsibility for how money is spent. It is therefore essential that the manager has a sound understanding of how a financial system works. There can be many varieties and levels of complexity in financial systems, but they will all be based on the same underlying principles. As Green notes above, developing and interpreting budgets is central to effective planning and management.

In this session, we will concentrate on this aspect of budgeting in financial management.

## Session Contents

1. Learning outcomes of this session
2. Readings and references
3. Budgets
4. Categories of expenses in budgets
5. Controlling and managing funds
6. Session summary
7. References

## Timing of this Session

In this session there are two readings and five tasks. It could take you up to four hours if done thoroughly and depending upon your prior experience.

## LEARNING OUTCOMES OF THIS SESSION

|  |  |
| --- | --- |
| **By the end of this session, you should be able to:** | |
| **Management outcomes:**   * Identify functions and responsibilities within financial systems. * Define key financial management terms and concepts. * Prepare a budget. * Interpret a budget. | **Academic outcomes:**   * Reflect on your own financial management experience. * Estimate resources required. * Categorise and analyse information. * Explain financial terminology. |

1. **READINGS**

The readings for this session are listed below.

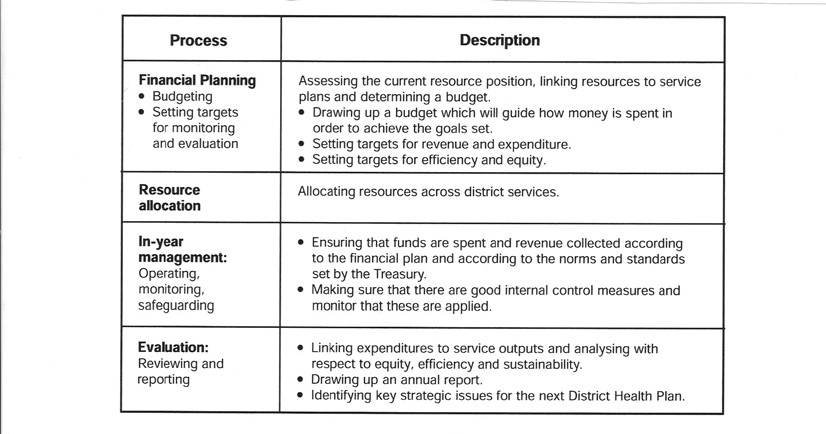
|  |
| --- |
| **Publication details** |
| MSH (Management Sciences for Health). (2001). Managing Your Finances in *The Family Planning Manager’s Handbook.* [Online], Available: <http://erc.msh.org/> [Downloaded: 25 5 10]: 37 pages. |
| Pillay, Y., Mzimba, M. & Barron, P. (Eds). (1998). Appendix 2 – Classifications of costs. *Handbook for District Managers*. Pretoria: Dept of Health: 79. |

## BUDGETS

This session could be studied in one of two ways: if you have drawn up budgets before, you could study the first reading which explores financial planning more broadly, and then check your understanding of budgeting by trying it out in practice in Task 2. If you are not familiar with budgeting, follow the step-by-step process below and refer to the reading as your source of information.

Engelbrecht, Jooste, Muller, Chababa and Muirhead (2002: 43) provide a table with description of the District and Institutional level financial responsibilities and functions.

### Table 2. Financial Management Processes



Read pages 1-2 of this reading as an introduction and use the above table to complete Task 1.

**READING**

MSH (Management Sciences for Health). (2001). Managing Your Finances in *The Family Planning Manager’s Handbook.* [Online], Available: <http://erc.msh.org/> [Downloaded: 25 5 10]: 37 pages.

**TASK 1 – Clarifying your role in financial management**

1. What aspects of financial management are you responsible for? Tick them off on the list titled “Basic financial management skills” on the third page.
2. If you do not manage these processes, in which of them are you involved?
3. Which of these skills could you strengthen?

### FEEDBACK

Although we are not going to tackle all these financial skills in this session, you now have this MSH (2001) reading at your disposal, and you can refer to it to strengthen the skills you need.

Now that you have located yourself in the functions you perform in the financial system as a manager, we are going to concentrate on budgeting, so continue to read MSH’s *The Family Planning Manager’s Handbook* (2001) “Preparing a Budget” which runs over the fourth and fifth pages. As you read, note down three ways in which a good understanding of budgeting would be of value to you and other managers in your workplace.

### In order to budget for your organisation, ensure that you know the following:



* **How much money you have to spend**
* **What you are spending this money on**
* **Are you spending more than what you have?**
* **Is the money spread over the duration of the financial year?**
* **Is the money spent on appropriate things?**
* **Is the money being distributed fairly?**
* **What is the expenditure per capita on the population?**

If you are a district manager or part of the District Management Team you will additionally want to know answers to questions such as:

* What is the total amount of money available for health services in the district?
* Is the money being spent in line with the money that is available?
* What is this money being spent on?
* Is the money being fairly distributed among all the facilities in the district?
* What is the expenditure per capita on the population of the district?

In order to answer these and other questions you will have to use some financial tools that will assist you. These tools include budgets and expenditure analysis.

### What is a Budget

*A budget is a document that translates plans into money - money that will need to be spent to get your planned activities done (expenditure) and money that will need to be generated to cover the costs of getting the work*

*done (income). It is an estimate, or informed guess, about what you will need in monetary terms to do your work* (Shapiro, nd: 1).

A budget sets out financial details about:

* + - Income i.e. the resources that are available to the health department or a component of the health department such as a district, a hospital or a clinic.
    - Planned expenditure i.e. How these resources will be used.

In other words, budgets are simply plans expressed in financial terms.

All of us use budgets in managing our personal lives and have household budgets (otherwise we would end up bankrupt). These budgets may be formal when we actually write them down or else informal and we do the sums in our head.



**Income**

Income i.e. the resources

**Expenditure**

Planned expenditure

that are available to the health department or a component of the health department such as a district, a hospital or a clinic.

i.e. How these resources will be used

**How much we need**

**To get the work done**

The source of money for a budget varies from country to country but it will depend on your usual, planned sources of income. Generally, the public health sector is funded by government and each country’s government sources their funding differently. Health needs always are greater than the available resources and budgets are a way of quantifying in financial terms what resources will be available. For example if the human resources (staff) component of a clinic budget does not contain expenditure for a doctor, then it will be impossible for that particular clinic to employ a doctor without changing the budget substantially.

Shapiro (nd) identifies the following sources of income:

* Promised donations
* Income generated from sales
* Income generated from services
* Subscriptions
* Membership fees
* Special events
* Investments
* Campaigns.

A simple budget is contained in Table 1 below.

A time frame

A heading telling you which component of the health sector the budget is for

The total amount available for expenditure

|  |  |  |
| --- | --- | --- |
| **Table 1. Budget for Moyo Clinic for 1 April 2009 to 31 March 2010** | | |
| **Income** |  | 4,000,000 |
| **Expenditure** |  |  |
| Staff costs | 2,800,000 |  |
| Drugs | 500,000 | get |
| Other consumables | 300,000 | of  lled bud |
| Office costs (stationery,  telephone) | 100,000 | main areas nditure ca s |
| Transport | 200,000 | The expe item |
| Maintenance | 100,000 | 4,000,000 |
| **Over/Under Expenditure** |  | 0 |

The basic features of a budget include:

No variance

* + - * A heading telling you which component of the health sector the budget is for (e.g. Moyo Clinic).
      * A time frame (April 2009 to 31 March 2010) telling you that this budget is for the financial year 2009/10.
      * The total amount available for expenditure, i.e. R4 million.
      * The main areas of expenditure called budget items (or line items) which can then be analysed in terms of the proportion of the total expenditure they absorb.

**Calculation of Proportion**

**Budget Item Expenditure X 100**

**Total Expenditure**

|  |  |  |
| --- | --- | --- |
| Staff costs | (2,800,000/4,000,000 X 100) | 70% |
| Drugs | (500,000/4,000,000 X 100) | 12.5% |
| Other Consumables | (300,000/4,000,000 X 100) | 7.5% |
| Office Costs | (100,000/4,000,000 X 100) | 2.5% |
| Transport | (200,000/4,000,000 X 100) | 5.0% |
| Maintenance | (100,000/4,000,000 X 100) | 2.5% |
| **TOTAL** |  | **100.0%** |

This is an example of a simple budget; in reality, each of the budget items would still need to be broken down into sub-components. For example the staff costs would have particular categories of staff such as clinic manager, professional nurses, staff nurses, clerical staff and general workers, which could be categorised as professional staff and non-professional staff. Office costs would be broken down into line items such as stationery, telephones, electricity, etc.

Similarly in our personal lives it is prudent that our budgets either balance (as in the example above) or more importantly that our expenditure is less than our income. The difference between the allocated expenditure and the actual expenditure is referred to as budget **variance**. If the variance is an overspend,

i.e. you would spend more than you have, it is shown in brackets.

Although budgets may be seen primarily as a tool for financial planning and monitoring, in projects and organisations they have also become a key tool for planning the overall implementation process. Budgets provide a means of clarifying priorities in community needs, and therefore resources and services.

### Types of Budgeting Techniques

There are two main types of budgeting techniques:

* incremental budgeting and
* zero-based budgeting.

Most budgeting in the health department and the public sector is known as incremental or historical budgeting. The details of the income and the expenditure in the previous year are readily available and all the manager has to do is to think about how the costs of the activities may change and then to change the budget accordingly for the next year.

***Incremental budgets*** *are budgets in which the figures are based on those of the actual expenditure for the previous year with a percentage added for an inflationary increase for the new year. This budgeting technique is only suitable for organisations where each year is very similar to the previous one in terms of activities* (Shapiro, nd: 16).

*In* ***zero based budgets****, past figures are not used as the starting point. The budgeting process starts from ‘scratch’ with the proposed activities for the year. The result is a more detailed and accurate budget, but it takes more time and energy to prepare a budget in this way* (Shapiro, nd: 16).

This technique is essential for new organisations and projects an example of this is when a new service is added such as the start of an antiretroviral treatment (ART) service.

For this task, we go back to the Grahamstown Meal Project that we used as a case study for planning in Unit 3. Now you need to develop a budget for the project.

|  |
| --- |
| **TASK 2 - Develop a budget Grahamstown Meal Project**  The Community Centre has agreed to allow their hall to be used as a venue for preparing and serving meals. They request that you pay R200 per month in rent and also contribute to water and electricity charges. You will also contribute to minor renovations of the building. Kitchen equipment will also have to be purchased.  You will be able to use the Community Centre vehicle but will have to contribute to maintenance, petrol and the salary of the driver. The Community Centre administrator will assist in the day-to-day administration of the project but you will have to contribute 20% of the salary.  After one year, you should conduct a survey among street children in the community to measure the effect and impact of the project. The costs of the survey should be included in the budget. You should decide on the salary costs.  In order to get costs for equipment, you would have to phone around for quotes or consult catalogues or past budgets. You may wish to group the costs for smaller items as lump sums.  Try to cost the budget using the “Tips for Budget Preparation” which is on pages 11- 14 of the MSH (2001) reading. Note that it is not always necessary to fill in all the columns. Think about exactly what you are trying to show in the calculations. |
| **READING**  Management Sciences for Health. (2001). Managing Your Finances in *The Family Planning Manager’s Handbook.* [Online], Available: <http://erc.msh.org/> [Downloaded: 25 5 10]: 37 pages. |
| Take the list of resources you made for the meal project and cluster them according to categories. Each category can be called a budget line, e.g. all the administrative items belong together. Now use the template below and cost each resource you identified for your budget.  Once you’ve completed your template, compare it with the feedback on the page. |

### Budget Template

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Budget line |  | Line item | Number of units | % of unit used | Cost per unit | Cost  per unit per month | Number of months | Cost per  line item | Cost per budget line |
| 1. Rent & utilities | 1a | Rent |  |  |  |  |  |  |  |
| 1b | Water & electricity |  |  |  |  |  |  |  |
| 1c | Minor maintenance |  |  |  |  |  |  |  |
|  |  | | | | | | | | |
| 2. Administration | 2a | Stationery |  |  |  |  |  |  |  |
| 2b | Telephone |  |  |  |  |  |  |  |
| 3. Transport | 3a | Vehicle maintenance |  |  |  |  |  |  |  |
| 3b | Vehicle insurance |  |  |  |  |  |  |  |
|  |  | | | | | | | |
| 3c | Petrol |  |  |  |  |  |  |  |
| 4.Staff | 4a | Cook |  |  |  |  |  |  |  |
| 4b | Kitchen assistant |  |  |  |  |  |  |  |
| 4c | Driver |  |  |  |  |  |  |  |
| 4d | Administrator |  |  |  |  |  |  |  |
|  |  |  | | | | | | | |
| 5. Equipment | 5a | Stove |  |  |  |  |  |  |  |
| 5b | Refrigerator |  |  |  |  |  |  |  |
| 5c | Cooking utensils |  |  |  |  |  |  |  |
| 5d | Eating utensils |  |  |  |  |  |  |  |
| 5e | Cleaning equipment |  |  |  |  |  |  |  |
|  |  | | | | | | | |
| 6. Supplies | 6a | Food |  |  |  |  |  |  |  |
| 6b | Cleaning materials |  |  |  |  |  |  |  |
|  |  |  | | | | | | | |
| 7. Project evaluation | 7a | Survey costs |  |  |  |  |  |  |  |
|  |  |  | | | | | | | |
| 8. Miscellaneous costs | 8a | Contingency |  |  |  |  |  |  |  |
| TOTAL |  |  | | | | | | | |

Here are some guidelines for using this budget template:

* The budget line is the broad category of resources, e.g. rental.
* Each item in the budget line is called a line item and appears in the next column.
* The unit cost refers to the cost per unit, e.g. a full-time driver is one unit and costs R2 000 per month, so from this you can work out how much 25% of a full-time driver’s time will cost.
* The number refers to how many of these items are needed.
* The cost per month is only relevant to ongoing expenses e.g. rent, salaries, food.
* The cost per line item is a total arrived at by multiplying the relevant costs together,

i.e. Rent: R200 x 12 months = R2 400; or Kitchen assistants:

* 2 staff x cost per month (R600) x number of months (12) = R14 400. Sub- totals of the categories or budget lines are then added up to simplify and clarify the costs.
* The term contingency refers to a reserve amount budgeted for in case something unexpected happens.

**FEEDBACK on Budget for Grahamstown Meal Project – Funding period:12 months**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Budget line |  | Line item | Number of units | % of unit used | Cost per unit | Cost per unit per  month | Number of months | Cost per  line item | Cost per budget line |
| 1.Rent & utilities | 1a | Rent | 1 | 100% |  | 200 | 12 | 2400 | **5800** |
| 1b | Water & electricity | 1 | 100% |  | 200 | 12 | 2400 |
| 1c | Minor maintenance |  |  |  |  |  | 1000 |
|  |  | | | | | | |
| 2.Administration | 2a | Stationery | 1 | 100% |  | 50 | 12 | 600 | **1200** |
| 2b | Telephone | 1 | 100% |  | 50 | 12 | 600 |
|  |  | | | | | | |
| 3.Transport | 3a | Vehicle maintenance | 1 | 25% |  | 200 | 12 | 600 |  |
| 3b | Vehicle insurance | 1 | 25% |  | 100 | 12 | 300 |
| 3c | Petrol | 1 | 25% |  | 800 | 12 | 2400 |
|  |  | | | | | | | **3300** |
| 4.Staff (part- time) | 4a | Cook | 1 | 100% |  | 1000 | 12 | 12000 |  |
| 4b | Kitchen assistant | 2 | 100% |  | 600 | 12 | 14400 |
| 4c | Driver | 1 | 25% |  | 2000 | 12 | 6000 |
| 4d | Administrator | 1 | 20% |  | 4000 | 12 | 9600 |
|  |  |  | | | | | | | **42000** |
| 5.Equipment |  | 5a.Stove | 1 | 100% | 2000 |  |  | 2000 |  |
| 5b.Refrigerator | 1 | 100% | 3000 |  |  | 3000 |
| 5c.Cooking utensils |  |  |  |  |  | 1000 |
| 5d. Eating utensils |  |  |  |  |  | 720 |
| 5e.Cleaning equipment |  |  |  |  |  | 500 |
|  | | | | | | | **7220** |
| 6.Supplies |  | 6a.Food |  |  |  | 3000 | 12 | 36000 |  |
| 6b.Cleaning materials |  |  |  | 50 | 12 | 600 |
|  | | | | | | | **36600** |
| 7.Project evaluation |  | 7.Survey costs |  |  |  |  |  | 1000 |  |
|  | | | | | | | **1000** |
| 8.Miscellaneous costs |  | 8.Contingency |  |  |  |  |  | 2000 |  |
| **2000** | | | | | | | |
| **Total Project Costs** | | **R99120** | | | | | | | |

### Interpreting Budgets

Managers are not only expected to develop budgets but also to interpret them. Interpreting a budget is about understanding:

* how much money was spent on what?
* why it was spent?
* and how much money is still to be spent?

Regular budget monitoring through analysis of budget statements is a very important role; furthermore, to defend or justify expenditure, you must be able to read budget statements.

This task aims to guide the process of interpreting and analysing a budget statement.

ote that this a negative riance – in ackets

**TASK 3 - Interpreting a Budget Statement**

Analyse the Budget Statement in Table 2 and answer the following questions. The four guiding questions below provide the framework for analysis and direct the manager to key aspects to consider.

1. What is the actual total expenditure of the budget?
2. Are patterns of expenditure in line with the budget?
3. What are possible reasons for the variances (deviations from the budget)?
4. What weaknesses are there in this budget?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 2. Budget statement for Moyo Clinic for the period 1 April 2009 to 31 December 2010** | | | | |
|  | **Annual Budget**  **R** | **Budget to end of December 2009**  **R** | **Actual expenditure to end of December 2009**  **R** | **Variances for period 1 April**  **to 31 December 2009**  **R** N |
| **Personnel Expenditure** | **2,800,000** | **2,100,000** | 2,140,000 | is  (40,000) va  br |
| Professional  Staff | 1,600,000 | 1,200,000 | 1,250,000 | (50,000) |
| Support staff | 1,200,000 | 900,000 | 890,000 | 10,000 |
| **Non-Personnel** | **1,200,000** | **900,000** | 940,000 | (40,000) |
| Drugs | 500,000 | 375,000 | 300,000 | 75,000 |
| Other consumables | 300,000 | 225,000 | 220,000 | 5,000 |
| Office costs (stationery, telephone) | 100,000 | 75,000 | 110,000 | (35,000) |
| Transport | 200,000 | 150,000 | 160,000 | (10,000) |
| Maintenance | 100,000 | 75,000 | 150,000 | (75,000) |
|  |  |  |  |  |
| **Total Expenditure** | **4,000,000** | **3,000,000** | 3,080,000 | (80,000) |

### FEEDBACK

Strategies for reading the statement

1. Clarify which columns represent the budget (intended expenditure): the answer is columns one and two.
2. Clarify which column represents the actual expenditure: column 3.
3. Note the period in question: it is up to the end of the third quarter of the year (Dec 2010). The financial year ends on 31 March 2010, so the budget was expected to cover another quarter.

In the public sector, budgets are usually balanced. This means that all the income is budgeted to be spent and that there is zero under- or over- expenditure. In South Africa, in terms of the Public Financial Management Act (PFMA) of 1999, managers are not allowed to overspend on their budgets without authorisation.

1. Note the variances: you should be concerned about both under- and over- expenditures. Under-expenditures could mean poor projection or that work is not

being done effectively, i.e. drugs are not needed or drugs are not being purchased.

Points to note in your analysis

1. The actual expenditure to date is 3,080,000 which exceeds the budget by 80,000. Put in another way there is already a total over-expenditure of 2.7%.
2. Expenditure is not in line with the planned budget. There is both under and over expenditure on specific items (over-expenditure is shown by the figures in brackets). Maintenance, with an over-expenditure of 75,000 (100%) is the line item with the biggest variance both in numerical terms and in terms of percentage. There is an under-expenditure on drugs of 75,000 (75,000/375,000=20%). Office costs exceed budget by 35,000 (35,000/75,000=46.7%).
3. The reasons for the variances (differences) could be many. For example the roof of the clinic may have required replacing unexpectedly. One of the professional nurses may have been upgraded to a senior professional nurse putting her into a more expensive category being the main reason for the over- expenditure of 50,000. This Table gives the management a good perspective of what is likely to happen for the rest of the financial year and what is required of them in terms of the financial management of the Moyo Clinic.
4. The weaknesses in this budget: While this budget does provide a good analysis of the financial running costs of the Moyo Clinic, it does not give any indication of what is being done at the Clinic and the level of activity. For example it does not tell us how many patients were seen, nor the average cost per patient.

We would be able to make the following observations if we knew that for the nine month period from April to December, 40,000 patients had attended the clinic:

* The average cost per patient is R77.00 (3,080,000/40,000)
* The average personnel costs per patient is R52.80 (2,140,000/40,000)
* The average drug cost per patient is R7.50 (300,000/40,000)

It is worth noting that when the average cost per patient is used, it assumes that both the services and patients are relatively similar. If they are vastly different,

e.g. if the clinic provides delivery services as well as serving general outpatients, then one is comparing women who deliver their babies over 12 hours with people coming to pick up drugs which could take 5 minutes. In this case it may be useful to split the budget for costs linked to the labour ward from the rest of the clinic, and work out average costs for each type of activity.

In addition, we would be able to compare Moyo Clinic with other clinics offering similar services to see whether the costs are in the same range and whether Moyo Clinic is efficient (or inefficient) compared to these other clinics.

We now move back to thinking about the development of budgets and refining aspects of calculating your costs.

## CATEGORIES OF EXPENSES IN BUDGETS

When preparing a budget, there is another level which you should think about while calculating costs: are these costs likely to be incurred once off, or will they be **recurring** (ongoing) costs? The value of this distinction is to assess the sustainability of the project.

**READING**

Pillay, Y., Mzimba, M. & Barron, P. (Eds). (1998). Appendix 2 – “Classifications of Costs”

*Handbook for District Managers.* Pretoria: Dept of Health: 79.

**TASK 4 – Clarifying financial terminology**

Take a look at the Glossary of this reading making sure you understand the meanings of the following kinds of costs:

* capital costs
* recurrent costs
* fixed costs
* variable costs.

Try to identify examples in your Meal Project budget.

### FEEDBACK

Examples of the four kinds of costs which are discussed are as follows in the context of the Meal Project example we used:

|  |  |
| --- | --- |
| **CAPITAL COSTS** | **Capital costs** are the costs of buying a refrigerator and stove. The term is relevant to large equipment or building renovation. In the short to medium term, these may be viewed as once-off costs. |
| **RECURRENT COSTS** | Examples of **recurrent costs** are rent, water, electricity and supplies: they will be incurred monthly, year after year. |
| **VARIABLE COSTS** | **Variable costs** are expenses that may vary over the duration of the funding period, for example, vehicle maintenance or catering for more people at certain times. They are usually described as varying according to the amount of services provided. Even though such costs will vary, we have to estimate an average for budgeting purposes. |
| **FIXED COSTS** | **Fixed costs** are those costs that are expected to remain constant for the duration of the funding period and do not vary according to the amount of services provided. These could include staff salaries, rent and bank charges. Many fixed costs are also recurrent costs. |

## CONTROLLING AND MANAGING FUNDS

Every health manager needs to ensure that resources are used both effectively and efficiently. Effectiveness refers to ensuring that the outcome of activities leads to improved health or less ill health. Efficiency refers to using the minimum resources to achieve the desired outcome. To do this, managers need to play a monitoring and controlling role in relation to finances - assessing the quality of plans, interpreting ongoing statements of expenditure, and ensuring that efficient expenditure is taking place without sacrificing effectiveness of outcomes.

Once your budget has been approved, it then becomes a tool for implementing the project and for monitoring expenditure. Throughout the funding period, it is absolutely essential for the manager to remain aware of how much has been spent and how much of the funds remains for each line item. Your finance department should be able to provide you with such an update every month in the form of an expenditure report. Sometimes these reports can seem rather daunting, but are usually quite simple once you understand how to read them. It is a good idea to ask someone from the finance department to explain exactly what the different columns show and how the calculations are done. Remember that for you as the manager, the important parts are: what has been spent and what remains in each budget line.

Something to bear in mind is that sometimes finance departments experience delays in receiving and entering all the relevant documentation of expenses: as

a result, monthly reports may not be completely up to date; so it is wise to also keep your own records. A very simple way to do this is to make a note of the date, the amount and the line item involved each time you approve an expenditure, and then at the end of the month to check these against the remaining budget to see whether they are included in it.

**READING**

MSH (Management Sciences for Health). (2001). Managing Your Finances in *The Family Planning Manager’s Handbook.* [Online], Available: <http://erc.msh.org/> [Downloaded: 25 5 10]: 37 pages.

In this reading, focus on the section called “Controlling and Managing Funds” on pages 20-26 and then do Task 5. It is a process of evaluating the financial controls system in your workplace.

**TASK 5 – Developing tools for controlling funds**

Study the “Manager’s Checklist to Ensure Good Financial Control” on pages 25- 26 of this reading. In your unit, project or department, how many of these procedures do you have in place? In each case, discuss with the person concerned whether such a procedure is necessary in your context. Finally, rewrite the checklist for your own context.

### FEEDBACK

Your evaluation will be context-specific, but you have probably found some gaps in your system. However, be careful to ensure that the financial procedures you put in place are realistic and manageable: if they are not, staff will start to ignore them and this can affect the more important controls.

## SESSION SUMMARY

During this session we looked at how to develop and interpret a budget. A manager in charge of a health or welfare programme is not expected to be a financial expert. However, as you will finally be accountable for how money is used in your programme or project, it is essential that you have a good understanding of basic budgeting principles and that you have strategies and systems to monitor and control expenditure. This will assist you in making sound decisions and in controlling your area of responsibility.



**This is the final session of this module**

**– we hope that you have found it challenging! Please take a little time to complete the Evaluation Form which will follow. SOPH is constantly striving to make the learning materials as helpful as possible to the students who use them. We would therefore like to hear about your experience of these materials so we can take it into account and adjust them to make them more relevant.**

### Management - the art of getting things done by and through people

Over the past weeks, we have aimed to increase your competence in some of the basic areas of health management. Following the theme of *management is: getting things done through people* (WHO, 1993: 5), we have attempted to strike a balance between a people-oriented approach and a task-oriented approach.

Time-management is a challenge for many managers. Through increasing your competence and managing yourself effectively, you will be able to work more efficiently and experience increased job satisfaction. In doing so you will hopefully feel less stressed and have more time and energy to devote to your most importance resource - people. We emphasised the importance of adequate planning and of effective systems as management tools. Taking time to understand your environment and to carefully think through the details of your plans will increase the likelihood of success in implementation. Taking time to set up and maintain systems will help you in controlling your areas of responsibility. Taking time to understand people will help you to understand the needs of the community you serve and how best to lead your team to provide high quality services, thus meeting the needs of both the staff providing the services and the people you serve.

We hope that this module has provided a helpful foundation upon which you can build as you continue to develop your skills in the challenging job of being a health manager!

## REFERENCES

* Engelbrecht, E., Jooste, H., Muller, G., Chababa, T. & Muirhead, D. (2002). Financial Management: An Overview and Field Guide For District Management Teams. Durban: Press Gang. Health Systems Trust.
* Green, A. (1994) An Introduction to Health Planning in Developing Countries. Oxford University Press.
* Shapiro, J. for Civicus: World Alliance for Citizen Participation. (nd). *Budgeting Toolkit.* Johannesburg: Civicus World Alliance for Citizen Participation. [Online], Available: [*http://www.civicus.org*](http://www.civicus.org/) [Downloaded: 2/06/10].
* WHO. (World Health Organisation). (1993). *Training Manual on Management of Human Resources for Health, Section 1, Part A. Geneva*: WHO.